

What is claimed is:

- 1    1. A coupler for coupling light in an optical system, the coupler comprising:  
2        a plurality of discrete layers of alternating optical materials having respective  
3            first and second indexes of refraction for coupling light of a given  
4            wavelength, the thickness of each layer being a fraction of the light  
5            wavelength.
- 1    2. A coupler according to claim 1, in which the fraction is about 1/10.
- 1    3. A coupler according to claim 1, in which the materials are silicon and silicon  
2        nitride.
- 3    4. A coupler according to claim 1, in which the materials are silicon and silicon  
4        rich nitride.
- 1    5. A method for coupling light in an optical system comprising:    ✓  
2        providing a plurality of discrete layers of alternating optical materials having  
3            respective first and second indexes of refraction for coupling light of a  
4            given wavelength, the thickness of each layer being a fraction of the  
5            light wavelength.
- 1    6. A method according to claim 5, in which the fraction is about 1/10.
- 1    7. A method according to claim 5, in which the materials are silicon and silicon  
2        nitride.
- 1    8. A method according to claim 5, in which the materials are silicon and silicon  
2        rich nitride.